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The next meeting of the society will be held at Munich in August or September, 1891, and a full attendance by our American colleagues would give them a much better idea of the nature and work of the *Astronomiche Gesellschaft* than the above necessarily imperfect sketch, and would serve to bind more closely the ties which unite astronomers on both sides of the ocean.

OBSERVATORY OF KIEL, January 2, 1890.

ON THE ORBIT OF μ^2 *HERCULIS* (Σ 2220).

BY ARMIN O. LEUSCHNER.

[ABSTRACT.]

The duplicity of μ^1 *Herculis* was discovered by Mr. ALVAN CLARK in the year 1856, with an aperture of 7¾ inches. Since then the pair has been regularly observed by the most distinguished observers. In 1879 Dr. W. DOBERCK deduced an orbit of the companion, and arrived at a period of 54.25 years. (*Astr. Nachr.*, 2287.) Recent measures seem to point to a somewhat shorter period. At the suggestion of Mr. S. W. BURNHAM, I have deduced a new orbit, employing therefor the excellent method of Prof. v. GLASENAPP. (*Mon. Not. Royal Astr. Soc.*, March, 1889.) Neglecting a couple of observations made by Messrs. SCHIAPARELLI and BURNHAM in the years 1887 and 1889, I arrived at a period almost identical with that obtained by Dr. DOBERCK. The introduction of the last two observations, however,—the only ones since 1883 accessible to me—renders the representation of the distances by means of the position-angles rather difficult.

The following are Dr. DOBERCK's and my own elements:

ELEMENTS.	DOBERCK.	LEUSCHNER.
☊	57° 57′	62° 6′.7
i	60° 43′	67° 0′.6
λ	156° 21′	181° 59′.0
e	0.3023	0.2139
a	1″.46	1″.369
T	1877.13	1880.142
P	54.25	45.39

The observations from which the new orbit has been computed were kindly collected by Mr. BURNHAM. The following residuals were obtained from the interpolating curves:

OBSERVER.	EPOCH.	θ_c	s_c	$\theta_o-\theta_c$	s_o-s_c
		°	″	°	″
Dawes	1857.50	63.0	1.75	−3.7	+0.07
Secchi	1857.85	64.0	1.75	+7.7	−0.01
Dawes	1859.70	67.9	1.69	−7.5	+0.36
O. Struve	1860.30	68.7	1.65	−1.0	−0.01
O. Struve	1862.83	75.1	1.44	+3.4	+0.06
Dawes	1864.43	79.6	1.27	−2.0	+0.54
Engelmann	1864.49	80.0	1.27	−12.5	+0.43
Winnecke	1864.76	80.3	1.25	−1.5	+0.51
Knott	1865.43	83.2	1.17	−3.6	+0.67
Dembowski	1865.44	83.4	1.17	−1.4	+0.03
O. Struve	1866.68	89.3	1.02	+0.2	+0.08
O. Struve	1868.50	101.7	0.79	−3.0	+0.09
O. Struve	1871.52	150.0	0.52	+6.8	+0.10
O. Struve	1873.50	188.8	0.59	−3.3	+0.04
Newcomb	1874.49	204.1	0.68	−0.2	+0.07
Gledhill	1874.64	....	0.70	....	−0.30
Schiaparelli	1875.58	215.6	....	−0.4	....
Newcomb	1875.68	216.7	....	+9.2	....
Hall	1875.69	216.7	0.81	+3.9	+0.37
Holden	1875.70	216.7	....	+0.9	....
Hall	1876.59	223.7	0.86	−0.3	−0.14
Dembowski	1876.68	224.4	0.89	−8.4	−0.06
Hall	1877.59	230.1	0.98	+2.7	−0.13
Schiaparelli	1877.59	230.1	0.98	−2.2	−0.18
Dembowski	1877.62	230.2	0.98	−0.3	−0.10
Burnham	1878.48	234.9	1.04	±0.0	+0.01
Hall	1878.50	234.9	1.05	−1.1	−0.17
Burnham	1879.45	239.9	1.08	+2.8	−0.18
Hall	1879.55	241.0	1.12	−1.5	−0.15
Schiaparelli	1880.46	245.8	1.07	−15.6	−0.37

Observer.	Epoch.	θ_c	s_c	$\theta_o - \theta_c$	$s_o - s_c$
		°	″	°	″
Burnham	1880.47	245.8	1.07	+0.1	−0.11
Hall	1880.70	246.3	1.07	±0.0	+0.01
Burnham	1881.41	250.1	1.03	+2.0	−0.11
Hall	1881.54	250.6	1.03	−1.5	−0.02
Hall	1882.52	256.4	0.96	+2.7	−0.26
Schiaparelli	1882.60	257.0	....	+9.8	....
Burnham	1883.53	263.0	0.86	−0.9	−0.12
Hall	1883.58	263.3	0.85	−1.0	−0.11
Schiaparelli	1883.63	263.7	....	+11.1	....
Engelmann	1883.96	....	0.81	....	−0.20
Schiaparelli	1887.54	317.9	0.49	+0.4	±0.00
Burnham	1889.51	358.4	0.57	−0.5	−0.02

Berkeley, December, 1889.

ON THE SIMILARITY OF CERTAIN ORBITS IN THE ZONE OF ASTEROIDS.

By Daniel Kirkwood, LL.D.

The occasional separation of comets into two or more fragments is no longer questioned. It may be asked, however, whether phenomena of this nature have been limited to comets, or whether indications of similar divisions may not be traced in the group of asteroids? This question, suggested some time since,* is one of much interest, but data for its discussion are still far from satisfactory. In order to facilitate the comparison of orbits so as to present at one view the most remarkable resemblances, I take a table of asteroidal elements, arranged in the order of their mean distances, and assume small, admissible limits of difference in the values of the distance, eccentricity, inclination, perihelion and node. In this comparison, however, it is to be borne in mind that the difference in longitude of the perihelion, as also in that of the node,

* *The Asteroids* (p. 48).